EXHIBIT 4

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MASSACHUSETTS

In re: Credit Suisse-AOL Securities Litigation

Civ. Action No. 02-12146-NG

EXPERT REPORT OF SCOTT D. HAKALA, PH.D, CFA

I. Background and Qualifications of the Expert

1. I am a director of CBIZ Valuation Group, LLC, a national business valuation and consulting firm that operates as a wholly owned subsidiary of CBIZ, Inc., a publicly traded business services firm (NYSE: CBZ). CBIZ Valuation Group is one of the largest business valuation and consulting firms in the United States with offices in Dallas, Chicago, Atlanta, Milwaukee, St. Louis and Princeton (New Jersey). CBIZ Valuation Group employs approximately 100 individuals providing business valuation services to public and private companies.

2. I received a Doctor of Philosophy degree in Economics and a Bachelor's degree in Economics from the University of Minnesota. I have earned the professional designation of Chartered Financial Analyst, awarded by the Association for Investment Management and Research. I have taught courses on asset pricing and market efficiency at the doctorate (Ph.D.) level at Southern Methodist University. In addition, I have served as a consultant and expert witness on numerous occasions regarding economic issues similar to those in this litigation. I have testified at trial as an expert on damages in

two class action securities cases, *In re Clarent Sec. Litig.* (trial testimony February 2005) and *In re JDS Uniphase Sec. Litig.* (trial testimony November 2007). I have been found qualified as an expert to testify regarding materiality, event studies, loss causation and damages on numerous occasions. I have prepared numerous damage analyses in securities litigation and have also prepared numerous plans of allocation for allocating settlement amounts based on damages to individual class members. With respect to plans of allocation, courts have cited my work in approving the settlement and plan of allocation over various concerns and objections in: *In re Broadcom Corp. Sec. Litig.*, 2005 U.S. Dist LEXIS 41976 (C.D. Cal. Sept. 12, 2005); *In re i2 Technologies Sec. Litig.*, No. 3:01-CV-418-H (N.D. Tex.); *In re Patriot Am. Hospitality Sec. Litig.*, 2005 WL 3801595 (N.D. Cal. Nov. 30, 2005) (citing my event study); *In re Williams Co. Sec. Litig.,* Case No. 02-cv-72-SFP (FHM) (N.D. Ok. Feb. 9, 2007) and *In re AOL Time Warner Sec. Litig.*, 2006 WL 903236 (S.D. N.Y. Apr. 6, 2006) (citing my event study). A detailed summary of my qualifications, including prior testimony and articles, is provided on the curriculum vitae attached hereto as Exhibit A.

3. Plaintiffs are being charged fees for my services in this engagement based on my current hourly billing rate of $525 per hour in 2007 and $550 per hour in 2008. I have received assistance from other staff employed by CBIZ Valuation Group, LLC. My staff bills at ranges between $70 and $340 per hour.

II. Information Considered

4. My opinions are based on my professional experience, as well as a thorough review of a substantial amount of available materials, including the following materials which I considered in reaching my conclusions:

a) The Second Consolidated Amended Class Action Complaint in this matter;

b) The Court's Memorandum and Order Re: Defendants' Motion to Dismiss dated December 7, 2006;

c) The various motions to dismiss and memoranda relating to the motions to dismiss filed by the parties in this case;

d) The Opposition of the Defendants to the Motion for Class Certification and Plaintiffs' Reply to the Opposition;

e) The Declaration of Rene M. Stultz relating to Defendants' Opposition to Class Certification and the materials produced by and deposition of Professor Stultz;

f) The Depositions and Exhibits to the Depositions of Martin, Kiggen, Watters and Wang;

g) Securities filings of AOL Time Warner, Inc. ("AOL" or the "Company") with the Securities and Exchange Commission ("SEC") from January 2001 through July 2003;

h) Published news articles and press releases and other public news regarding AOL from January 2001 through August 2002 found on *Factiva, LexisNexis, Bloomberg, L.P.* or the *Yahoo! Finance Bulletin Board* for Time Warner (TWX);[1]

i) Published news articles from October 2000 through April 2002 found on *Factiva, LexisNexis*, and *Bloomberg, L.P.* relating to Credit Suisse's analyst coverage of AOL and Martin and Kiggen;

j) Various published analysts' reports as found on *Thomson Research* between

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[1] The *Yahoo! Finance Bulletin Board* was only used based on keyword searches as a check to verify the timing of news and information leaking into the market or being disclosed and to better ascertain the news and information that was identified in various posts as influencing investors' opinions and affecting AOL's share price. It was not used as a primary source of information and not determined to be an independent source of influence on AOL's relative share price in this case.

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January 2001 and July 2003, including, but not limited to all analyst reports on

AOL published by Credit Suisse between January 12, 2001 and January 31, 2002;

k) Institutional trade data for AOL, AOL, Inc., and Time Warner, Inc. from

December 31, 2000, through December 31, 2002, provided by *Thomson*

Analytical Research;

l) Publicly available financial information and public trading price information

on AOL, market indices and similar public companies as found on *Bloomberg,*

L.P., and;

m) Various texts and published articles as cited in the text including: the CFA

Institute, *Standards of Professional Conduct* (including prior AIMR editions of

the Standards of Professional Practice) Sixth through Ninth Editions; Clements

& Tse, "Do Investors Respond to Analysts' Forecast Revisions as if Forecasts

Accuracy Is All that Matters?", *The Accounting Review*, January 2003, pp. 227-

249; Park, C., and E. Stice, "Analyst Forecasting Ability and the Stock Price

Reaction to Forecast Revisions," *Review of Accounting Studies 3 (3) 2000:* pp.

259-272; Mikhail, Walther and Willis, "When Security Analysts Talk, Who

Listens?", *The Accounting Review 2007,* pp. 1227-1253; Asquith, Mikhail, and

Au, 2005, "Information content of equity analyst reports", *Journal of Financial*

Economics 75: pp. 245-282; Hirst, Koonce and Simko, "Investor reactions to

financial analysts' research reports", *Journal of Accounting Research 33*, 1995,

pp, 335-351; Stickel, "The anatomy of the performance of buy and sell

recommendations," *Financial Analysts Journal 51*, 1995, pp. 25-39; Brav and

Lehavy, "An Empirical Analysis of Analyst' Target Prices: Short Term

Informativeness and Long Term Dynamics," (Working Paper, University of California at Berkeley), May 2001;   Gleason and Lee, "Analyst Forecast Revisions and Market Price Discovery," *The Accounting Review*, January 2003, pp. 193-225;   Imhoff and Lobo, "Information content of analysts' composite forecast revisions,", *Journal of Accounting Research, 22*, Autumn 1984: pp. 541-554;   Jagadeesh, Kim, Krosche and Lee, "Analyzing the analysts: when do recommendations add value?", (Working Paper, University of Illinois and Cornell University), 2001;   Womack, "Do brokerage analysts' recommendations have investment value?", Journal of Finance, 61, 1996, pp. 137-167;   Barber, Lehavy, McNichols and Trueman, "Can Investors Profit from the Prophets? Security Analyst Recommendations and Stock Returns," *The Journal of Finance*, Vol. LVI, No. 2, April 2001, pp. 531-563;   Ronen, Joshua, Yaari, Varda, "Earnings Management";   Pedell, Burkhard, "Regulatory Risk and the cost of Capital"; Ryan and Taffler, "Are Economically Significant Stock Returns and Trading Volumes Driven by Firm-specific News Releases?", *Journal of Business Finance & Accounting*, Vol. 31(1) & (2), January/March 2004, pp. 49-82;   Barber, Lehavy, and Trueman, "Comparing the Stock Recommendations Performance of Investment Banks and Independent Research Firms," (Working Paper, University of California, University of Michigan and UCLA Anderson School), July 2005, pp. 1-33;   Barber, Lehavy, and Trueman, "Ratings Changes, Ratings Levels, and the Predictive Value of Analysts' Recommendations," (Working Paper, University of California, University of Michigan and UCLA Anderson School), December 2007, pp. 1-26;   Barber, Lehavy, McNichols and Trueman, "Buys,

Holds, And Sells: The Distribution of Investments Banks' Stock ratings and The

Implications for the Profitability of Analysts' Recommendations," (Working

Paper, University of California, University of Michigan, Stanford University and

UCLA Anderson School), September 2005;   Asquith, Mikhail and Au, MIT

Sloan School of Management, "Information Content of Equity Analyst Reports,"

(MIT Sloan Working Paper 4264-02* 2004);   Ivkovich and Jagadeesh, "The

Timing and Value of Forecast and Recommendation Revisions. Do Analysts

receive Early Peek at Good News?", (also, Working Paper Department of Finance

University of Illinois at Urbana-Champaign)   AFA 2004 San Diego Meetings,

November 2002.

III. Summary of the Analyses and Conclusions

5. I was requested by counsel for the Plaintiffs in this matter to provide opinions on

materiality, loss causation and damages. For purposes of this opinion and report, and

based on the information identified in paragraph 4, I assumed or considered, as a general

summary, the following factual information:

> (a)   At the beginning of the Class Period (defined as January 12, 2001 through
> July 24, 2002), the Defendants, particularly Kiggen and Martin, were
> aware that "there was a substantial weakening in the advertising markets
> that would negatively affect AOL, and therefore, AOL would be unable to
> continue to achieve the revenue and earnings guidance published by CSFB
> for AOL." (Compl. ¶4a) In particular, Martin knew on or before January
> 12, 2001 that the "national ad market is much weaker than 5 weeks ago."
> (Email dated January 11, 2001 from Laura Martin re: "let's not lie to
> ourselves"; Compl. ¶17) Additionally, the Defendants knew that the price
> target of AOL should be materially lower than the $80 published in their
> reports dated January 12 and 16, 2001. (Kiggen Dep. Ex. 14; email dated
> January 12, 2001 from Martin to Kiggen and Watters re: "Can we use the
> closing of the merger as an excuse to lower our target price from $80 to
> $60-65? See analysis below"; Compl. ¶¶18-21) Similarly, the Defendants

issued an analyst report on February 1, 2001 that falsely reaffirmed Credit Suisse's revenue and earnings guidance for AOL and set a price target of $75 for AOL shares, despite the Defendants' knowledge that AOL could not achieve those revenue and earnings targets and that the resulting price target was set too high. (Compl. ¶22)

(b)   On March 5, 7 and 8, 2001, the Defendants published three analyst reports that reaffirmed Credit Suisse's price target of $75 and an EBITDA target of $10.9 billion, despite knowledge that the price target, EBITDA and revenue targets for AOL were unlikely to be achieved due to the weakening advertising market. (Kiggen Dep. Ex. 17; Martin Dep. Ex. 15; email dated March 13, 2001 from Martin to Wang and Kiggen, re: "aol-thanks for your review and comments"; Compl. ¶¶24-29)

(c)   On March 21 and 23 and April 2, 3, 10, 12 and 16, 2001, the Defendants published additional analyst reports that repeated Credit Suisse's price target, EBITDA targets and earnings per share ("EPS") targets, despite knowledge that AOL's revenue, EBITDA and EPS targets were no longer attainable. (Email chain dated March 19, 2001 between Kiggen and Martin re: "thoughts on AOL EPS revision"; email dated March 29, 2001 from Martin to Watters and Kiggen re: "on the record"; Kiggen Dep. Ex. 27; Compl. ¶¶29-41) In two of these reports, on April 3 and 16, 2001, the Defendants acknowledged investor concerns regarding AOL meeting its revenue ($40+ billion) and EBITDA ($11 billion) guidance but stated (in the April 3 report) "our view continues to be that this guidance is achievable, but probably not without a price increase in AOL's core online service (a likely event later in the year), and probably not if the economy slows further. Our estimate of $10.9B [billion in EBITDA] does not factor in a price increase, but it does assume some stabilization in the decline in advertiser and consumer spending in H2." Both the April 3 and 16, 2001 reports were of particular note in countering investor concerns and discussed in news articles on April 3 and April 16, 2001.[2]

(d)   On April 18, 2001, the Defendants published an analyst report following AOL's first quarter 2001 earnings announcement. In this report, they reiterated the 2001 guidance of "$40+ billion in revenue and $11 billion in EBITDA" and pointed to "a firming ad market" in the second half of 2001. (Compl. ¶42) Despite this report, Martin began working on a "scathing" report on AOL by April 23, 2001 suggesting that AOL's first quarter numbers were not as positive as represented and that the high margins were "not sustainable" going forward, but this report was withheld and never published. (Kiggen Dep. Exs. 29 and 30; Compl. ¶¶43-52)

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[2] *CNBC: Squawk Box*, April 3, 2001, 8:00a.m. and "AOL Spared from Tech Sector Selloff Thanks to Membership Growth," *TheStreet.com*, April 16, 2001.

(e)   The Defendants issued analyst reports on May 15 and 16, 2001 commenting on AOL developments and reaffirming Credit Suisse's revenue, earnings, EBITDA and price targets.

(f)   Another analyst report was published by Credit Suisse on May 22, 2001 discussing the "highly anticipated" price increase in the "core AOL unlimited usage month subscription fee for North America." As a result of this price increase, Credit Suisse increased its 2001 AOL revenue estimate by $200 million to $41.4 billion and EBITDA target by $100 million to $11.0 billion, despite knowledge of the weakening advertising market and AOL's inability to meet such targets. (Compl. ¶¶55-56) On May 23, 2001, another analyst report regarding a meeting with Mr. Pittman of AOL continued to reinforce the increase in the EBITDA target to $11.0 billion and stated, "the stock should continue to trend up in the near-term as investors who are underweighted (the stock remains under-owned institutionally) grow more comfortable with AOL's targets this year." (Compl. ¶57) The report on the meeting with Mr. Pittman was reported and discussed in the news.[3]

(g)   Additional reports were issued by Credit Suisse on May 29, June 4 and June 12, 2001 commenting on developments for AOL and representing that AOL's EBITDA target for 2001 was $10.9 billion, despite knowledge by the Defendants of continuing weakness in the advertising market and AOL's inability to meet such a target for 2001. (Compl. ¶¶58-61)

(h)   On June 25, 2001, Credit Suisse published a report entitled "AOL June Q Preview: Cash Flow Good Revenue Light; Adjusting Top Line Estimates." This report indicated that AOL might fall slightly short of Credit Suisse's and AOL's revenue estimates but would report "strong free cash flow" and "improved visibility on 2H EBITDA estimates." This report stated that the Defendants were "comfortable with [their] EBITDA estimates" for the remainder of 2001 and reaffirmed an EBITDA target for 2001 of $11.0 billion "with upside of $100 to $200 million possible."

(i)   On July 10 and 11, 2001, the Defendant became aware of layoffs at AOL of "medium" "severity" or "grade" that would not be announced publicly by AOL. (Kiggen Dep. Exs. 33 and 34; Compl. ¶¶68-69) In addition, they learned that AOL was "under investigation" and had "suspended some employees for inappropriate accounting activities—some deals booked inappropriately inflated revenue." (Kiggen Dep. Ex. 34; Compl. ¶69) Despite this information, the Defendants failed to withdraw their guidance, disclose this information, or correct their prior statements.

(j)   On July 18, 2001 AOL announced revenues and earnings that fell short of expectations and partially revealed the relevant truth. Certain analysts

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[3] CNBC: Squawk Box, May 23, 2001, 8:00a.m.

lowered their expectations for AOL on July 18 and 19, 2001, further revealing the relevant truth.

(k)   Despite these revelations, on July 19, 2001, the Defendants published an analyst report commenting on AOL's second quarter 2001 earnings announcement on July 18, 2001. Given the disappointing and "mixed" results disclosed by AOL and the "uncertain economic environment," the Defendants lowered their revenue forecast for the second half of 2001 by $1.36 billion but maintained their EBITDA forecast at $10.9 billion. The Defendants noted in this report that AOL's share price was trading at a "premium" and stated, "While that premium is sustainable and is likely to expand as EBITDA quality improves, we think the stock will be a market performer until the revenue outlook becomes clearer." The July 19 analyst report was reinforced by a July 23, 2001 report published by Credit Suisse summarizing AOL's second quarter earnings announcement and Credit Suisse's opinion from its July 19 report.

(l)   On August 2, 2001, Credit Suisse issued another analyst report reaffirming its EBITDA expectations for AOL of $10.9 billion for 2001. Despite this report, they were aware, as shown in an e-mail dated August 7, 2001, that the "ad environment is getting worse, not better and AOL isn't immune…" (Email dated August 7, 2001 from Martin to Kiggen and Watters re: "please help me sort something out…"; Compl. ¶¶77-78)

(m)   On August 13 and 14, 2001, *The Wall Street Journal* and *The Washington Post* reported on successive days regarding an expected announcement of layoffs by AOL and discussed the deteriorating advertising environment. This information partially revealed the relevant truth. As discussed by a Credit Suisse analyst report dated August 15, 2001, "Turmoil around AOL's stock yesterday (down 8%) was caused by continued low visibility on revenue and EBITDA growth in H2 and speculation that management was lowering guidance, and, to a lesser extent, uncertainty around a potential AOL/AT&T Broadband deal." As a result, the Credit Suisse report lowered its revenue expectations for AOL in 2001 by $300 million to $39.0 billion and its EBITDA estimate for 2001 by 3% to approximately $10.6 billion. Despite lowering estimates on August 15, 2001 the Defendants continued to represent publicly that "we think investors will profit from owning AOL at this leveling anticipation of seasonal strength in Q4…" (Compl. ¶84) The Defendants did not disclose that they believed that their EBITDA estimate of $10.6 billion for 2001 was too high. (Compl. ¶85)

(n)   On August 22, 2001, after AOL acknowledged certain anticipated layoffs, Credit Suisse issued another analyst report that reiterated an EBITDA estimate of $10.6 billion for AOL in 2001 and suggested that these layoffs would lead to a "clean structure which will enable revenue to fall to the EBITDA line next year[.]" (Compl. ¶86-87) However, as shown in a

September 9, 2001 e-mail, the Defendants knew that their earnings estimates for AOL were "too high" and needed to be lowered because "the ad market is still worsening in every sector." (Sept. 9, 2001 email from Martin to Kiggen at 11:33 p.m.; Compl. ¶¶88-90)

(o)   On September 19, 2001, Credit Suisse downgraded a number of cable and entertainment stocks based on the events of September 11, but did not downgrade AOL. Instead, Credit Suisse merely lowered expectations for AOL, but did not set the lowered expectations at the level foreseen internally (EBITDA for 2001 under $10.0 billion). (Wang Dep. Ex. 4; Compl. ¶¶91-100) In contrast with certain other media stocks, Credit Suisse's AOL analyst report published on September 18 and/or 19, 2001 represented that, "In light of the concerns reflected in the downgrades of the Cable and Entertainment groups, in our view, AOL is a unique spot and prices in a lot of those concerns" and recommended that investors "Buy at Current Levels" as a result. (Compl. ¶¶96-97)

(p)   The day after AOL lowered its revenue and earnings guidance by less than expected for the second half of 2001 on September 24, 2001, Credit Suisse published an analyst report that reduced its forecast for revenues and EBITDA of AOL for 2001, reducing expected EBITDA from $10.6 billion to $10.1 billion in 2001, but indicating that "we expect AOL's relative outperformance to accelerate once the turnaround begins." (Compl. ¶¶98-99) This report was issued despite internal e-mails stating that the 2001 EBITDA estimate for 2001 was still too high. (Wang Dep. Ex. 4; Compl. ¶100)

(q)   On October 17, 2001, AOL announced financial results for the third quarter of 2001. This announcement further revealed a portion of the relevant truth regarding lower-than-expected advertising revenues and results. (Compl. ¶¶102-104) Additionally, despite Merrill Lynch's downgrade of AOL on October 17, 2001, which also partially revealed the relevant truth, the Defendants published a commentary on October 18, 2001 entitled, "In-Line Q3 Results; Outlook Unchanged." This report admitted that "the advertising market continues to remain weak." (Compl. ¶103)

(r)   On November 26 and December 5, 2001, Credit Suisse published additional analyst reports that reiterated the false and/or misleading revenue and earnings guidance for AOL.

(s)   On January 8 and January 30, 2002, Credit Suisse published its last two AOL analyst reports during the Class Period. The January 8 report acknowledged that AOL had pre-announced lower-than-estimated EBITDA of approximately $2.7 billion for the fourth quarter of 2001 as compared with Credit Suisse's estimate of $2.9 billion, and that $100 million of this difference was "due to a continuing softness in higher

margin ad/commerce revenue." Additionally, the report noted that AOL had lowered its EBITDA growth target for 2002 from "double-digit EBITDA growth" to "growth of 8%-12%." Thus, Credit Suisse decreased its 2002 revenue estimates for AOL from $41.4 billion to $41.2 billion, and its EBITDA estimates from $11.7 billion to $10.3 billion. The January 30 report commented on AOL's fourth quarter and year-end 2002 earnings disclosure and left the estimates from the January 8 report unchanged.

(t)   In summary, I assume for the purposes of this report that the Defendants knew and failed to disclose the following: (i) between January 11, 2001 and January 31, 2002, the demand for advertising (particularly Internet advertising associated with the AOL division) was weakening such that it was unlikely that AOL's revenue guidance would be realized in 2001 and 2002, especially in the second half of 2001; (ii) between January 11, 2001 and January 31, 2002, the operating profit margins realized and affirmed in guidance by AOL were not sustainable due to the decline in demand for and pricing of advertising (particularly with respect to Internet advertising in the AOL division) and, therefore, AOL was highly likely to miss its EBITDA and earnings guidance for 2001, especially in the second half of 2001; (iii) as a result of the prior two assumptions, the price targets set by the Defendants for AOL in all published analyst reports between January 11, 2001 and January 30, 2002 were not reasonable or achievable; (iv) by July 11, 2001, AOL was having to lay off workers in its AOL division; and (v) by July 11, 2001, AOL was under investigation and had suspended some employees for improper accounting and/or inflating advertising revenues in AOL.

6. I performed an extensive event study analysis that examined the movements in AOL's share price as a function of identified news and disclosure events, movements in the share prices of AOL's peers separated into two equal-weighted peer indices (TECH and MEDIA), and as a function of market forces (based on the Standard & Poor's 500 Index, or "SPX") The period studied (the "Study Period") was from the completion of the merger of AOL and Time Warner on January 11, 2001 through July 25, 2002.[4] The TECH index was based on the equally-weighted geometric average returns on the shares of Yahoo! and Microsoft. The MEDIA index was based on the equally-weighted

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[4] This end date is set after the end of the Class Period so as to exclude the increased volatility in AOL's share price associated with the additional corrective disclosures of accounting fraud and resulting uncertainty that occurred following July 25, 2002.

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geometric average returns on the shares of: Viacom (VIAB); Fox (FOX); Cox Media (COX); Disney (DIS); News Corp. (NWS); Clear Channel (CCU); Liberty Media (L); and Gannett Co. Inc. (GCI). The event study results are summarized in Exhibit B-1. The market model portion of the event study (explained by SPX, TECH and MEDIA) provided an excellent fit, explaining more than half the variance in AOL's returns during the Study Period. A Composite Index was constructed to provide a combined industry prediction for AOL's share price based on the coefficients in Exhibit B applied to the SPX, TECH and MEDIA indices. The Composite Index returns were compared with the returns on AOL's shares between January 12, 2001 and July 25, 2002 in order to isolate the idiosyncratic movements (abnormal returns) in AOL's share price. (See Exhibit C-1.) As shown in the charts in Exhibits B-3 and B-4, adjusting for AOL-specific events, the movements in the Composite Index tend to track the movements in AOL's share price quite well over time.

7. Consistent with the recent academic studies, analyst reports that contained significant Company commentary (including upgrades and downgrades; changes in revenue, EBITDA or earnings estimates; changes in price targets) and were isolated from other events which consistently had a statistically significant effect on AOL's share price throughout the Study Period. The average effect of a total of 23 events with relatively "clean" negative analyst changes was -2.71% (in percentage terms) which was statistically significant (t-statistic of 1.90 using a one-tail test) on a single data. The analyst reports that were the strongest in their impacts were those that represented the greatest qualitative and quantitative changes in opinion, were among the first to make such changes relative to the consensus opinions of other analysts, and/or that deviated

(especially downward) from their own prior opinions. Those analyst reports that would be selected on qualitative grounds to be likely to influence investors were generally significant in their relative effects on AOL's share price. Jointly, the selected analyst reports that reflected significant changes in estimates and recommendations were extremely significant in affecting AOL's share price during the Study Period.[5] Thus, there is strong evidence that analyst reports published by Credit Suisse between January 12, 2001 and January 31, 2002 both helped prop up and maintain the inflation in AOL's share price and other analysts were instrumental in revealing the relevant truth regarding advertising revenues and trends over time.

8. Analysis of the analyst reports and the event study establishes that, had the Defendants published the relevant truths summarized in the Complaint and in paragraph 5 of this report in the Credit Suisse analyst reports, the effect would have been significant and material to investors. Credit Suisse was one of the more active analysts covering AOL between January 2001 and October 2001 and was considered a recognized, major analyst firm. Both Kiggen and Martin were noted in news reports and recognized as prominent analysts within their sectors.[6] As a result, Credit Suisse's guidance as to AOL's revenues, earnings and prospects carried stronger weight than most other analysts. While one might point to other analysts that provided similarly positive price targets and revenue and earnings estimates for AOL in the period between January 2001 and January 2002, Credit Suisse was among the more optimistic in its coverage. Thus, had Credit

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[5] A total of 43 analyst reports with positive or negative expected effects or changes in Exhibit C-1a were studied with a joint t-statistic of 12.28 and a relative change in natural log terms of 2.706% (controlling for hypothesized effect). A total of 23 identified negative analyst reports were studied with a joint t-statistic of 9.12 and an average negative effect of 2.71% in percentage terms.

[6] Martin, in particular, was considered an "all-star" media and entertainment analyst, according to *Institutional Investor* in 2001.

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Suisse published the lower EBITDA and earnings guidance reflected in internal documents, lowered its price target consistent with internal documents, or otherwise indicated significantly less faith in AOL's ability to meet its revenue and/or EBITDA guidance for 2001 and 2002, then the consensus estimates of analysts would have been reduced materially and the reaction of investors to such disclosure would have been significant and material.

9. The event study analysis also identified the points in time when the positive comments and results inflated AOL's share price and when the revelations or leakage of the respective relevant truths regarding the weakening advertising market, layoffs at AOL, and accounting improprieties began to lead to foreseeable losses. The relevant events related to advertising and EBITDA issues and layoffs are identified in Exhibit B-1 and are further set forth in Exhibits C-1a and C-1. For loss causation and damages purposes, I adjusted the event effects in Exhibit C-1 on January 12, 2001 to reflect the estimated decline in AOL's relative share price based on the average effects of analyst reports determined by the event study analysis. I also placed a weight of 1.0 on the February 5, 2001 Credit Suisse analyst report, a weight of 0.5 (half of the effect) on the September 19, 2001 Credit Suisse analyst report and Credit Suisse downgrade of certain other media stocks, and a weight of 13.41% on all other relevant events listed above so as to allow for no inflation in the share price related to the advertising and EBITDA shortfall issues after April 23, 2002.

10. The negative effect of notice of layoffs at AOL was more pronounced between July 11 and August 14, 2001. A minor notice of layoffs (30 persons) was reported by *The Washington Post* on July 11, 2001 and caused a modest, but statistically significant,

3.0% relative loss in AOL's share price. However, further information regarding the true magnitude of the planned layoffs revealed a much larger and more significant problem. This information was revealed through news articles by *The Wall Street Journal* and then *The Washington Post* on the successive days of August 13 and 14, 2001. These disclosures led to statistically significant relative share price losses of -3.0% and -6.6%, respectively, on August 13 and 14, 2001. For loss causation and damages purposes, I conservatively assumed that the incremental information known by the Defendants by July 11, 2001 was greater than or equal to lesser of the two leakage event effects observed on August 13 and 14, 2001 (moderate severity) and would have revealed the fact that AOL was consciously concealing the layoffs from investors. This suggests an incremental negative effect on AOL's share price of approximately 3.0% (shown as a positive effect of 3.11% on July 12, 2001 in Exhibit C-1a) would have occurred on July 12, 2001 but was, instead, realized later through the August 13 and 14, 2001 corrective events.

11. The first noted indication of accounting improprieties was exposed in a series of articles by *The Washington Post* on July 18 and 19, 2002. As shown in the overnight event study performed in Exhibit B-2, even though the scope of the accounting improprieties discussed was relatively modest in comparison with the ultimate revelations between July 24 and August 31, 2002, the effect of the successive articles was statistically significant and led to relative share price losses of 7.3% on July 18 and 3.3% on July 19, 2002. However, denials by the Company and support by certain analysts reduced the net relative effect of these disclosures to negative 1.9% on July 18 and negative 1.9% on July 19, 2002 for a total net effect of negative 3.7% (which is

statistically significant in a one-tail test with a joint t-statistic of 1.79). For damages

purposes, I conservatively assume that the quality and the nature of the information

known by the Defendants by July 11, 2001 was at least as significant or greater than the

net effect observed on July 18 and 19, 2002 and/or the average overnight effect observed

on July 18 and 19, 2002, and that the July 18 and 19, 2002 disclosures by *The*

Washington Post were "equivalent disclosures" that extinguished the inflation in the

stock price relevant to the Defendants' earlier non-disclosure. This is very conservative

given that *The Washington Post* article prompted a series of inquiries that eventually led

to substantially greater relative share losses between July 24 and August 31, 2002 and a

similar disclosure in 2001 would likely have prompted similar types of inquiries

(especially with respect to the Purchase Pro transactions) and further losses. The value

line and inflation per share analysis is set forth in Exhibits C-2 and C-2a. In order to

allocate the damages across the three corrective events on July 18, July 19 and July 25,

2002, I applied a weight of 14.2% to the relative overnight effect of each of these three

corrective events (shown in Exhibits C-2 and C-2a). This allocates approximately half of

the realized loss to the disclosures on July 18 and 19, 2002 and the remainder to July 25,

2002.

12. I segregated damages into two separate sets of claims. Damages per share related

to the weakness in advertising, the inability of AOL to meet its EBITDA targets, and

layoffs are assumed to only be available for shares purchased on or after January 12,

2001 and on or before February 19, 2002 and held after July 17, 2001 (the first major

corrective event). Damages associated with the failure to disclose the Defendants'

knowledge of the accounting improprieties are assumed to be available to shares

purchased on or after July 12, 2001 and on or before July 24, 2002 and held until at least

July 18, 2002. Damages are measured by the inflation at the time of purchase (expressed

as a percentage of the purchase price per share) minus the inflation expressed as a

percentage of the share price at the time of sale (the "out-of-pocket" measure of

damages).   As is discussed later in this report, the out-of-pocket measure of damages is

the economically correct and consistent measure of the loss caused by the alleged fraud.[7]

The true value per share in Exhibit C-1 reflects the net effects of the subsequent relevant

events relating to the advertising weakness, failure to meet EBITDA expectations and

layoffs on each date of purchase or sale that was attributable to the false and misleading

statements of the Defendants. The true value per share in Exhibit C-2 reflects the failure

to disclose the accounting improprieties the Defendants were aware of by July 11, 2001

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[7] This damage measure is well recognized and has been consistently applied by experts in securities litigation. Additionally, there are strong economic arguments as to why the inflationary loss is always a "reasonably foreseeable" loss and always caused by the fraud, notwithstanding the operation of the market or other events upon the inflation in the stock price. This damages measure is sometimes referred to as the "out of pocket" rule, but that term, too, can be confusing and is used in different ways. The "out of pocket" rule is set forth in a variety of places, including: *Restatement of the Law, Torts, Second*, American Law Institute, 1977, Section 549, and; Page Keeton, et al., *Prosser and Keeton on The Law of Torts*, Fifth Edition, 1984, Section 110, pp. 767-777. Recent cases where I have testified and this method of calculating damages has been allowed include: *In re Broadcom Sec. Litig.* (Approval of plan of allocation over objections September 2005); *In re Raytheon Sec. Litig.* (June 2004 bench ruling and later approval of plan of allocation after settlement*); In re Clarent Sec. Litig.* (January 2005 ruling on motions in limine and trial testimony February 2005); and *In re JDS Uniphase Sec. Litig.* (ruling denying *Daubert* motion October 9, 2007, and other rulings denying various motions in limine filed in October and November 2007). For references by economic experts, see, for example, Michael Barclay & Frank C. Torchio, "A Comparison of Trading Models Used for Calculating Aggregate Damages in Securities Litigation,"; 64 *L. & Contemp. Probs.,* pp. 105-106 (2001) (stating: "In general, damages per share are calculated as the artificial inflation when the shares were purchased minus the artificial inflation when the shares were sold."); John Finnerty & George Pushner, "An Improved Two-Trader Model for Estimating Damages in Securities Fraud Class Actions," 8 *Stan. J. L. Bus. & Fin.,* p. 213 (2003) (discussing a damage model that measures damages based on inflation at time of purchase minus inflation at time of sale and allows for "in-and-out" or selling damages); Bradford Cornell & R. Gregory Morgan, "Using Finance Theory to Measure Damages in Fraud on the Market Cases," *37 UCLA L. Rev.*, pp. 883, 885-886 (1990) (for investors who sold their securities before the final corrective disclosure, the measure of damages is "the difference between the price inflation at the time of purchase and the price inflation at the time of sale.") The same measurement is applied to holders of stock through the end of a class period – inflation at the time of purchase minus inflation at the date of measurement. The PSLRA also contains a cap on damages based on a 90-day look back period at the end of a class period. 15 U.S.C. §78u-4(e).

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but did not disclose and which were first partially revealed in two articles *in The Washington Post* on July 18 and 19, 2002.

13. I estimated the inflation in AOL's share price based on the combined allegations concerning weakness in advertising revenues, inability to meet EBITDA guidance and undisclosed layoffs in Exhibit C-1. A similar, and separate analysis of the inflation associated with the non-disclosure of the accounting issues is provided in Exhibit C-2. The inflation in AOL's share price related to the advertising weakness and failure to meet EBITDA estimates claims is merely the difference between the market price and the "true value" for AOL shares determined by my analysis. The exact methodology for determining the true value in AOL's share price over time, as set forth and summarized in Exhibit C-1, is the "residual returns" (or "backwardization") method commonly employed by experts.[8] In this case, in order to be conservative and to limit damages to a fraction of the effects of the relevant event, I limited the inflation per share in percentage terms to reflect the determined effect of the disclosure of the relevant truth throughout the Class Period as found by the analyses of equivalent disclosures in certain analyst reports throughout the Class Period and considered only a portion of the effects of relevant events during the Class Period as previously discussed.

14. In Exhibit C-1, I related the event study analysis to the alleged relevant truths regarding weakness in advertising and AOL's inability to meet EBITDA guidance

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[8] In this case, I also worked forward as well as backwards in order to reconcile the calculations. For support for this methodology, s*ee*, for example, Cornell and Morgan, "Using Finance Theory to Measure Damages in Fraud on the Market Cases," *UCLA Law Review*, June 1990, pp. 899-900; Koslow, "Estimating Aggregate Damages in Class Action Litigation Under Rule 10b-5 for Purposes of Settlement," *Fordham Law Review*, April 1991, pp. 819-825; and Finnerty and Pushner, "An Improved Two-Trader Model for Estimating Damages in Securities Fraud Class Actions," also published in *Stanford Journal of Law, Business and Finance*, 2003, pp. 8-11 (discusses adjusting the corrective events over time for a "comparable-stock index that recognizes both industry and market-wide influences" and adjusting for "firm-specific factors that can be directly attributed to company announcements that are not related to the fraud" using the backwardization approach based on percentage returns, not absolute dollar changes).

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throughout 2001 and early 2002 in order to determine the inflation in AOL's share price over time in both relative (percentage of share price) and absolute terms. I considered the average relative effects of "clean" analyst reports that lowered expectations for AOL based on weakness in advertising and expected EBITDA and earnings shortfalls to be approximately equivalent in nature to the disclosures Credit Suisse was required to make at the beginning of the Class Period. The average effect of these reports was then used as the basis for estimating inflation in AOL's share price for the reasons set forth in the Complaint and in paragraph 5 of this report as of January 12, 2001. The inflation in AOL's share price was then adjusted as other related events influenced the share price of AOL over time.

15. The layoff-related inflation was then added to the advertising and EBITDA shortfall inflation estimates in Exhibit C-1 based on an assumed inflationary event (non-disclosure by Credit Suisse) on July 12, 2001 and eliminated on or about August 14, 2001. The announcement of revenues and earnings by AOL for the second quarter of 2001 (July 18, 2001), lowered analysts' estimates (July 19, 2001), leakage of information regarding layoffs (August 13 and 14, 2001) and leakage of information on decreasing advertising revenues (September 7, 2001) had eliminated most of the inflation in AOL's share price related to the weakness in advertising and layoffs by September 7, 2001. However, the share price of AOL was reinflated in September 2001 when Credit Suisse issued favorable reports on AOL while downgrading certain other media stocks between September 19 and 25, 2001. This reinflation was then partially dissipated in the fourth quarter of 2001 as a result of AOL's third quarter revenues and earnings disclosure (October 17) and lowered guidance, reduced analyst expectations (particularly on

October 17 and 18, December 3, December 7, and December 10, 2001). The remaining

inflation in AOL's share price related to advertising weakness and the inability to meet

EBITDA guidance was dissipated in the first few months of 2002, with the most notable

declines associated with analyst reports and commentary on January 2 and 3, January 31

and February 20, 2002, and lowered guidance by AOL that reduced AOL's relative share

price on January 8, 2002. The resulting analysis is consistent with recent academic

research on the effects on stock prices of lowered price targets and earnings expectations

and statements by analysts of major brokerage firms as to the effects of an analyst

significantly lowering expectations relative to consensus levels and expressing doubt as

to the ability of a company to meet its guidance.

16. It is my understanding that the Plaintiffs may choose to present evidence on

inflation per share but not aggregate damages at trial.   However, for information

purposes, aggregate damages are estimated in Exhibits E-1 and E-2 for identified

institutional and non-institutional shareholders, respectively, based on the inflation per

share analysis in Exhibit C-1. Exhibit E-3 summarizes the combined damages for all

shareholders related to the advertising weakness, failure to meet EBITDA guidance and

layoffs. Similarly, aggregate damages associated with failure to disclose the known

possibility of accounting improprieties are estimated in Exhibits F-1 and F-2 for

identified institutional and non-institutional shareholders, respectively.   The specific

methodology for estimating aggregate damages is the multi-trader model advocated and

commonly used by a number of experts in securities litigation and has been validated and

shown to be relatively conservative based on recent comparisons with claims data in

cases I have been involved in. These estimates of damages are believed to be consistent

with and/or conservative relative to the actual total claims for damages filed in the AOL Time Warner securities litigation and damages asserted in various "opt-out" cases. Given that a substantial portion of the shares were reportedly held by identified institutional investors and the method of calculating institutional investor damages based on quarterly turnover is conservative, the damages estimates provided are slightly understated but within a relatively precise range of error.

17. The methodology for estimating relative and absolute inflation in AOL's share price provided in Exhibits B and C represents a framework for estimating inflation per share throughout the Class Period and estimating damages. The calculations in Exhibits B and C can be adjusted to accommodate different assumptions as to the relevant (corrective or inflationary) events and the proportion of such relevant events that may be determined to be corrective or inflationary in nature. Thus, I may, if called upon in trial, provide different demonstrative calculations of inflation per share and inflation estimates in Exhibits B and C, and possibly different damage estimates in Exhibit E to accommodate various alternative assumptions in order to assist the trier of fact.

18. I also anticipate reviewing other expert reports in this case and, if necessary, addressing any additional information that may result from such review and discovery.

IV. General Discussion and Analysis

Market Efficiency

19. I incorporate by reference my prior declaration on market efficiency and rebuttal declaration, both filed in this case. As I previously testified, I found strong evidence for the level of market efficiency required for class certification.

a) There was more than adequate trading volume, public float and market value to attract substantial investor interest and to ensure market efficiency. The trading fundamentals and reasonably high turnover of the public float led to substantial analyst coverage prior to and throughout the proposed Class Period.

b) Most of AOL's shares were held by institutional investors throughout the Class Period.

c) The fact that AOL's shares were actively traded on the New York Stock Exchange and in good standing prior to the corrective disclosures is, by itself, usually sufficient to conclude that the market for its shares was reasonably efficient.

d) AOL was eligible to file and did file a Form S-3 prior to the proposed Class Period and was able to register securities prior to the corrective disclosures. AOL also issued regular press releases and information regarding its earnings, guidance and commercial developments.

e) Finally, there is a "cause and effect relationship" between unexpected corporate events and financial releases and movements in the security price. This is shown in the event study summary set forth in Exhibit B-1.

20. Additionally, the event study summarized in Exhibit B-1 and the academic literature find that significant changes in the price targets, investment recommendations, and revenue and earnings estimates of securities analysts of major brokerage firms are material and do significantly influence the investment decisions of both sophisticated institutional investors and individual investors.

Materiality

21. For purposes of this opinion, information is deemed to be material if "there [is] a substantial likelihood that the disclosure of the omitted fact would have been viewed by the reasonable investor as having significantly altered the 'total mix' of information made available."[9]

22. In general, investors and analysts base their evaluation of a company's value and the appropriateness of purchasing shares in a company based on the company's ability to reliably produce earnings (or cash flow) relative to other companies and general securities market information.[10] This evaluation is primarily determined by analysts and institutional investors based on representations of and interviews with management, including quarterly conference calls following earnings announcements, company releases, and disclosures in various filings with the SEC.[11] Investors then use such information and the recommendations of analysts and other advisers in forming their opinions and in making investment decisions.

23. In general, the consensus of the published academic studies is that analysts play an important role in providing information and analysis to investors. Analyst reports that represent significant changes in opinion in both qualitative and quantitative terms will generally have material effects on publicly-traded security prices. Based on my prior experience, including analysis of more than 100 event studies, and review of the academic literature, I have formed the following opinions:

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[9] *Basic Inc. v. Levinson*, 108 S. Ct. 978, 983 (1988).

[10] AIMR, *Standards of Practice Handbook*, 1996, pp. 73-74; *AIMR Corporate Disclosure Survey, A Report to: AIMR*, Fleishman-Hillard, February 2000.

[11] *AIMR Corporate Disclosure Survey, A Report to: AIMR*, Fleishman-Hillard, February 2000, pp. 12-14. The sources of information cited in a survey of analysts as "extremely" or "very important" included: company executives (74%); annual report (71%); news releases (71%); quarterly reports (66%); conference calls (54%); and regulatory filings (52%).

a) Analyst reports that provide significant negative changes in opinions in either quantitative or qualitative contexts will have material and negative relative stock price effects when not immediately following or related to (and consistent with) a company disclosure that would be expected to generate such negative change in analysts' opinions or expectations and when not following other similar negative changes in other analysts' opinions.

b) In periods of investor uncertainty, analyst reports that comment on expected material changes in company trends and estimates prior to earnings announcements and other company disclosures will have a material impact on publicly-traded equity prices.

c) Analyst reports issued by major U.S. investment firms, such as Credit Suisse, generally have had greater influence on the pricing of publicly-traded equity securities than less widely disseminated and less prominent analyst reports. The effects of major U.S. investment firm analysts' reports are particularly material and significant in affecting the prices of publicly-traded equity securities when the reports represent a change from the consensus views of other similar analysts and/or represent a change from the analysts' prior views and opinions as to the prospects and trends for the given company.

24. In this case, I found through my event study analyses that analysts generally had a substantial influence on AOL's relative share price. Positive analyst comments at times of investor concern and uncertainty tended to materially offset or reduce the relative declines in AOL's share price that otherwise would have occurred. Even when the net effect of such analysts' comments did not appear to be significant in the one-day effects

in the event study, news articles often noted that the analyst reports and comments caused the stock price to move significantly in the hours of trading immediately following the publication and/or other dissemination of the analysts' reports or comments. Negative analyst opinions, when offered on isolated days with no other offsetting or "confounding" information, consistently led to significant relative stock price declines throughout the period studied.

25. In particular, Credit Suisse and Martin and Kiggen were noted analysts covering media and Internet stocks in the period from December 2000 through September 2001. Credit Suisse was one of the most active firms in consistently covering and commenting on AOL's news, trends and expectations between January 12, 2001 and January 31, 2002 and, thus, was considered more informed of the prospects for and trends affecting AOL's expected revenues, EBITDA and earnings levels in 2001 and 2002. Credit Suisse's positive support for AOL was noted in relation to reports published on February 5, April 3, April 16 and May 23, 2001.

26. Martin was a noted and respected media analyst.[12] Martin's downgrades of certain other media stocks were noted and material on March 12 and September 19, 2001. The positive support and effects of Credit Suisse's coverage of AOL is particularly distinguished from the negative effects of downgrades of other media stocks on March 12, 2001, in early September 2001, and on September 19, 2001.

27. Although many of the identified analyst reports issued mixed messages or were subject to significant offsetting or confounding events, I was able to identify 45 dates

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[12] Martin was a recognized "all-star" analyst by *Institutional Investor* in 2001. Martin was also the moderator of a panel discussion involving AOL's Levin, Disney's Eisner, Viacom's Redstone, and USA Network's Diller at a Credit Suisse media conference on May 3, 2001, See, "Media Titans Take Off Gloves; Levin, Eisner, Diller and Other Spar Over Technology," *The Washington Post*, May 4, 2001.

where analyst reports were issued and were viewed as likely to be the primary company-specific news related to AOL on those dates. The selected dates are shown in Exhibit B-1 in the Analyst Related column. In Exhibit B-1, I also considered the hypothesized effect of each report by indicating in the Expected Effect column a positive 1.0 for a positive report, zero for a relatively neutral or mixed report, and negative 1.0 for a more negative report. Using this system and the expected event effect, I estimated the average absolute impact of the analyst report given the one-day effect estimated by the event study in Exhibit C-1a in the hypothesized direction. This is conservative in that, although some of the analyst reports were noted as having positively or adversely affected AOL's relative share price in intraday trading, some analyst report event effects were muted by other identified and unidentified news on certain of the selected event dates. The average absolute event effect of 43 "relatively" clean events was estimated to be 2.70% (in natural log terms). Using a joint t-test, this is extremely significant (t-statistic of 12.28). Thus, it is clear (from visual observation, review of the identified news reports on the effects of analysts on AOL's share price, and from the event study) that analysts' statements and reports were an extremely material and relevant factor in influencing the valuation of AOL's shares throughout the Class Period.

28. I similarly considered a joint test of the average effect and significance of the average effect of the identified negative analyst reports. A total of 23 "clean" negative analyst reports were identified. They generated an average negative relative effect of 2.71% (in percentage terms) on AOL's share price. Using a joint t-test, the negative analysts reports were jointly extremely significant (joint t-statistic of 9.12) in affecting AOL's relative share price. The average negative analyst report, by itself, was

statistically significant (using a one-tail test with an average t-statistic of 1.90). Thus, consistent with the academic literature, negative analyst reports tended to be more significant and to have greater relative effects than positive analyst reports.

Event Study Summary

29. Materiality is often assessed in the context of an event study. An event study is based on a market model. A market model is a model of how the price of a security (in this case, the price of AOL's publicly traded common shares) moves in relation to a market index and/or an index of peer group companies and responds to news and information.

30. The event study that I conducted in this case is composed of three stages. The first stage of my event study was the identification of material events. The intent of this step of the event study analysis was to control for all days when potentially material information came into the market.[13] The available public information was reviewed to determine information that investors would find to be material to AOL on a qualitative basis.[14] This information included analysts' reports, press releases, securities filings,[15]

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[13] As long as there are sufficient degrees of freedom, the addition of more events (over-identification of events) will ensure a set of "clean" observations in the control sample of "non-event days" and avoid contaminating the market model estimates. Thus, adding "too many" events ensures the relative absence of bias and ensures consistency of the estimates but at some slight loss of efficiency. See, for example, Intriligator, *Econometric Models, Techniques, and Applications*, 1978, pp. 188-189, and Pindyck and Rubinfeld, *Econometric Models and Economic Forecasts*, 1991, pp. 162-166.

[14] The list of material items relied upon is based on the NASDAQ guidelines as recognized by the SEC in *Federal Register,* Vol. 67, No. 157, August 7, 2002, pp. 51306-51310. We then added third party news and reports, and analysts' reports to that list consistent with the academic studies. The dates identified as having potentially material news events and, therefore, associated with indicator variables are listed in Exhibit B. *See*, also, Ryan and Taffler, "Are Economically Significant Stock Returns and Trading Volumes Driven by Firm-specific News Releases?" *Journal of Business Finance & Accounting*, Vol. 31(1) & (2), January/March 2004, pp. 49-82, particularly the Appendix: "Description of the News Categories Driving Price and Trading Volume Activity." Not all Form 10-Q's and 10-K's were listed as potential events. Only those Form 10-Q's and 10-K's particularly noted in the Complaint and/or otherwise discussed by analysts and in news reports were specifically included in the list of identified events. The dates identified as having potentially material news events and, therefore, associated with indicator variables are listed in Exhibit B.

and news articles (newspapers and daily publications, as well as more general publications).[16] This component of the event study was compiled through a "blind" data selection process, meaning that the information likely to be new and material was selected for inclusion in the study without access to or reference to the actual stock price reaction on the corresponding dates. As a natural consequence of this, as with any, truly "blind" data selection process, there are certain dates on which AOL's stock price moved in a significant manner, but which do not appear to be correlated to identified news events for that day. Similarly, many identified potentially material dates will not lead to significant relative stock price movements (either because the news on those dates was mixed, the news was already anticipated, or the news did not otherwise significantly alter the consensus of investors) but may lead to increased trading volume.

31. The second stage of the event study involved the identification and analysis of possible market indices and guideline or peer group companies relative to the returns of AOL's shares. The purpose of this stage of the study is to control for the movements in AOL's share price that can be explained by the movements in market and industry share prices of other companies and to isolate the effect of each event on the share price of AOL. The market model portion of the analysis is based on the Standard & Poor's 500 Index (SPX), an industry based on AOL competitors (TECH) and an industry index based on TW competitors (Media). The TECH index was based on the returns on the shares of Yahoo! and Microsoft for the AOL Competitor Index. The MEDIA index was based on the returns on the shares of: Viacom (VIAB); Fox (FOX); Cox Media (COX); Disney

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[15] Most securities filings, including Forms 10-K, 10-Q and 8-K, are routine or duplicative of previously disclosed news. Thus, only when a news article or analyst mentions something surprising or new in such filings are they customarily identified as possible events for the purposes of this study.

(DIS); News Corp. (NWS); Clear Channel (CCU); Liberty Media (L); and Gannett Co. Inc. (GCI). The two industry indices were based on equally-weighted geometric returns from the index members. Collectively, the market and two industry indices could explain 52.3% of the daily variance in AOL's stock price returns. Incorporating the identified company-specific event days, the percentage of the variance increased to 93.4%, although the adjusted percentage was 84.9%.

32. A Composite Index was constructed to isolate and distinguish the share price movements caused by company-specific news from movements caused by market and industry news. The Composite Index has two components, one based on broad U.S. stock indices (the market component) and another based on the stock prices and returns provided by companies in the same or similar industries as AOL and Time Warner (the industry component). The estimated coefficients for the four indices were combined with the indices to form a single Composite Index for analytical purposes. The change in the Composite Index on a given day represents the prediction of the movement in the share price of AOL on that day assuming no company-specific news. Thus, on any given day, the change in the Composite Index predicts the expected ("normal") change in AOL's share price. The "abnormal return" is the difference between the return realized by AOL shareholders during a period of time (a day or an extended number of days) and the return predicted by the Composite Index over the same period of time.

33. The third stage of the analysis involved analyzing the candidate events (identified in stage one) in an integrated event study regression that explicitly corrected for changes in volatility during various time periods over the study period in this case. I used the

integrated regression, or event parameter, approach.[17] This approach was selected

because the older "two-pass" cumulative abnormal returns (CAR) approach to event

studies can often be a biased and inconsistent approach to analyzing events.[18]   The

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[17] In creating a precise, reliable market model required for an event study, one should account for the effects of all significant company-specific news events during the study period, even news unrelated to the subject of interest. *See*, for example, Aktas, de Bodt and Cousin, "Event Studies with a Contaminated Estimation Period," *Journal of Corporate Finance*, Vol. 13, 2007, pp. 129-145. This is done using dummy or indicator variables integrated into the market model regression to capture and control for the effects of company-specific events. In a chapter of the textbook *Market Models: A Guide to Financial Data Analysis, 2001,* Alexander explains (p. 441), "Dummy variables should be viewed as necessary measures for data that have structural breaks, regime shifts or seasonalities. If dummies are omitted there will be residual problems that lead to inefficient parameter estimates on the real explanatory variables." In other words, if there are significant news events that caused the stock price of AOL to move on specific days (both related and unrelated to the allegations in this case), it is necessary that one capture the effects of such news events with dummy variables on the appropriate dates in order to have a reliable analysis. Alexander specifically states (p. 440), "…[O]ne might consider creating a dummy variable to model the timing of important news announcements,…Structural break dummy variables are important whenever the data covers a permanent shift arising from a change in regime, or a temporary shift due to an extreme market movement. Dummy variables should be used prudently and only if there is a real reason, such as an important news announcement...." Consistent with this, I only included dummy variables in my event study for news events specifically related to AOL that were identified *a priori* without reference to the actual price movements of AOL's shares, and that were, in the context of this study, deemed important (material).

Many academic articles discuss the use of dummy/indicator variables to capture the effects of events including: Larcker, Gordon and Pinches, "Testing for Market Efficiency: A Comparison of the Cumulative Average Residual Methodology and Intervention Analysis," *Journal of Financial and Quantitative Analysis*, June 1980, pp. 267-287; Box and Tiao, "Intervention Analysis with Applications to Economic and Environmental Problems," *Journal of the American Statistical Association*, March 1975, pp. 70-79; Binder, "Measuring the Effects of Regulation with Stock Price Data," *The RAND Journal of Economics*, Summer 1985, pp. 167-183; Karafiath, "Using Dummy Variables in the Event Methodology," *The Financial Review*, August 1988, pp. 351-358; Malatesta, "Measuring Abnormal Performance: The Event Parameter Approach Using Joint Generalized Least Squares," *Journal of Financial and Quantitative Analysis*, March 1986, pp. 27-38; Marais and Schipper, "Chapter 17A: Event Study Methods: Detecting and Measuring the Security Price Effects of Disclosures and Interventions," *Litigation Services Handbook: The Role of the Financial Expert*, Third Edition, 2005 Cumulative Supplement, pp. 17A:15-16, 18, 22-23 (discusses the "event parameter" method, the use of the method to accommodate multiple events and in managing more complex modeling issues); and Dufour, "Dummy Variables and Predictive Tests for Structural Change," *Economics Letters*, 6, 1980, pp. 241-247. (Marais has served as a consultant and co-expert in two securities cases in the past year in both testing and validating my methodology.) Examples in textbooks discussing using dummy indicator variables to capture events in time include: Pindyck & Rubinfeld, *Econometric Models & Economic Forecasts*, 1991, pp. 104-108; Spanos, *Statistical Foundations of Econometric Modeling*, 1986, pp. 536-539 (and as part of a continuing example of modeling money holding behavior in a dynamic, time-series regression); Enders, *Applied Econometric Time Series*, 1995, pp. 243-249 (discusses structural change in unit root time-series and uses dummy variables to test for and adjust for structural change or level shifts in such series); Intriligator, *Econometric Models, Techniques, and Applications*, 1978, pp. 58-61, and Campbell, Lo and MacKinlay, *The Econometrics of Financial Markets*, 1997, p. 167.

[18] The traditional CAR analysis fails to control for company-specific news and, thus, provides a misspecified test in that it consistently fails to control for the factor it seeks to test and, thus, improperly formulates the hypothesis test, especially in a single company event study analysis.

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integrated regression approach yields consistent and unbiased estimates of both the

market model and the effects of events over the period of interest.[19] After identifying all

candidate events, the measured effect of each candidate event is analyzed in the context

of daily returns.

There is substantial general and specific literature in the statistics, economics and finance fields discussing the problems that can arise in the traditional two-pass CAR methodology. See, for example, Larcker, Gordon and Pinches, "Testing for Market Efficiency: A Comparison of the Cumulative Average Residual Methodology and Intervention Analysis," *Journal of Financial and Quantitative Analysis*, June 1980, pp. 267-287. The authors in this paper state (p. 267), "The objective of this paper is to suggest that the traditional CAR methodology is often inappropriate and that *intervention analysis* [italics in original] is a possible alternative. Where the systematic risk (i.e. Beta) of a firm change as the result (or in anticipation) of an announcement, the cumulative average residual methodology will result in biased residuals. …Intervention analysis, on the other hand, can separate such risk changes from the information content of the announcement. In addition, intervention analysis also allows the observed auto-correlation in the market model residuals to be removed, thus providing improved beta estimates required for reliable statistical testing." Franses in *Time Series Models for Business and Economic Forecasting,* 1998, recommends "intervention" analysis (p. 130) consistent with Box and Tiao (1975) and points out the statistical problems that arise when one does not capture the effects of known events (with dummy variables) or "neglects them" (pp. 128-129). He states (p. 144), "With *a priori* knowledge of specific events and approximate dates which may yield aberrant observations (…), it is not difficult to examine their relevance for a model that will be used for forecasting. We can simply extend our model with additional regressors, such as the dummy variables…. Standard tests for significance can then be used to decide which regressors are potentially important for forecasting." In other words, not only should a researcher use *a priori* information to identify possible events for inclusion in the regression analysis as dummy variables, but he or she should then test to determine whether such dummy variables should be included in the final analysis.

The bias and inconsistency problems associated with the two-pass or CAR event analyses are particularly significant in single company event studies. First, the "clean period" required to obtain estimates of the standard errors and the coefficients of the market model in the CAR methodology is almost never really clean in a statistical sense. Clean in a statistical sense implies few or no significant company-specific events and a properly specified market model. Because company-specific events are common in stock price return data, the residuals during the candidate "clean period" are usually not normally distributed (fat tails or kurtosis is common) and the estimated market model is biased and inconsistent due to an *omitted variables problem*. These problems lead to overstated standard errors and understated t-statistics during the event analysis stage of the two-pass methodology. Additionally, fundamental changes in the businesses of a company and its peer companies over time can render the market model coefficients in the "clean period" inapplicable to or biased relevant to the estimation period. (See, for example, Marais and Schipper, "Chapter 17A: Event Study Methods: Detecting and Measuring the Security Price Effects of Disclosures and Interventions," *Litigation Services Handbook: The Role of the Financial Expert*, Third Edition, 2005 Cumulative Supplement, pp. 17A:16-21, wherein they discuss the problem of low "power" in single company event studies and the problem of "interventions" in the estimation period yielding "unstable results".) Second, the market model in the two-pass CAR methodology is often estimated using a daily returns series. The low percentage of variance explained by the market model (low R-squared of 15% or less) leads to an unfavorable (low) signal to noise ratio and will tend to cause the market model coefficients to be understated or inaccurate even if the omitted variables (omitted company-specific events) did not cause them to be biased. For this reason, beta estimates are preferably made using longer return windows until the R-squared improves or the estimation of the market model must be made in a regression with the company-specific events included as indicator or dummy variables. See Franses in *Time Series Models for Business and Economic Forecasting,* 1998, pp. 128-129.

[19] See the references and discussions in the two prior footnotes.

34. The measured effect of each potentially material event is provided in Exhibit B and is expressed in percentage terms along with a measure of its statistical significance in the form of a t-statistic. For individual events, statistical significance will be set based on a t-statistic of 1.65 in absolute terms (a 90% confidence level using a two-tailed test, 95% confidence using a one-tailed test).[20] Individual events that were not statistically significant should, nevertheless, remain in the regression results and affect the overall analysis because they are part of the entire event selection process.[21] Otherwise, the exclusion of such intervention variables may alter the statistical inferences. Events that have a t-statistic of greater than one in absolute terms are viewed as "meaningful" in that these events improve the overall "information" in the study and, all else being equal, were more probably than not, given the prior selection process, to have had some impact on price of AOL's shares.

35. AOL had substantial media and analyst coverage. As a result, on most days a potentially material company-specific news event was identified. Jointly, the events (216 events with estimated effects in total) accounted for more than half of the total trade days

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[20] Statistical significance has more than one meaning and is not a talismanic term. See David H. Kaye & David A. Freedman, Reference Guide on Statistics, in *FED. JUD. CNTR., REFERENCE MANUAL ON SCIENTIFIC EVIDENCE* pp. 83, 123-27 (2d ed. 2000) (discussing practical significance); Alan Stuart, et al., *KENDALL'S ADVANCED THEORY OF STATISTICS, VOLUME 2A: CLASSICAL INFERENCE & THE LINEAR MODEL* p. 193 (6th ed. 1999) ("This numerical convenience [rule of thumb criteria for statistical significance] has persisted long beyond its hour of need."); Lapin, *STATISTICS FOR MODERN BUSINESS DECISIONS* p. 186 (1978) ("A decision rule must be chosen that will provide a lower probability of the more serious error . . . . He [the decision-maker] should therefore be wary of setting Alpha [the criteria for significance] and Beta at arbitrary or traditional levels."); Berry and Lindgren, *STATISTICS: THEORY AND METHODS* pp. 423-427 (2d ed. 1996) (arguing against a fixed criteria for statistical significance and for considerations of practical significance); and Cassidy, *USING ECONOMETRICS* pp. 129-138 (1981) (describes the setting of confidence levels at the 10% rejection rate and "One-sided tests should be used whenever the researcher's prior permit.") An event with a t-statistic of 2.33 or greater in absolute terms is often considered "highly significant" at the 99% level, and an event with a t-statistic greater than 3.0 is often considered "extremely significant" or an "outlier" that is so significant its existence is rare absent some actual event and inconsistent with random noise derived from the normal distribution given the number of degrees of freedom.

[21] Cassidy, *USING ECONOMETRICS* pp. 252-253 (1981) discusses the problem with selectively deleting intervention variables that are insignificant from the analysis and discusses the use of collective (joint) tests for the inclusion of groups of intervention variables as a whole, rather than individual interventions.

considered in the analysis (388 observations). The identified events explained a disproportionate share of the remaining unexplained variance in AOL's share price throughout the study period.[22] An F-test is a conservative test for the statistical significance of a group of events or explanatory variables. The F-test for the significance of the identified events suggested a confidence level in excess of 99.99% for the identified events.[23] The F-test for the identified relevant events was extremely significant at the 99.99% confidence level. Similarly, as previously discussed, the selected events associated with the identified significant analyst comments were extremely significant. Thus, the share price of AOL reacted more and was significantly more likely to change in relative terms on identified event days, than on non-event days.

Inflation Per Share Analysis

36. Economic loss causation is based on the portion of the loss in share price (assuming the shareholder purchased and sold the shares in the same amounts and at the same times, but at the "true" values instead of at the inflated prices) that would not have occurred had the truth as alleged by the Plaintiffs been disclosed in a timely manner. Fraud infuses material information that is false into the mix of information underlying the stock price (or omits to state material information); the market values that false information or omission; and the stock price is artificially inflated. The value of the false information (or the value incorrectly attributed to the price because true information is withheld) is sometimes referred to in securities litigation as the "inflationary component" of the price, or the "inflation." The stock then moves through the marketplace with both

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[22] The identified events were able to increase in the R-squared from 52.13% to 93.44%. The adjusted R-squared, which controls for the large number of identified events, increased to 84.89% from 51.63 with the introduction of the identified events during the Study Period.

[23] $F_{(207,167)}=$ 4.85123 with Significance Level 0.00000000.

a true value and an inflation component, the latter of which is based on the fraud. The

stock's "absolute" price (the dollar amount at which it is actually trading in the real

world) is composed, in other words, of two parts: true value and inflation.

37. "Inflationary loss" means the loss due to the fraud and is measured by inflation on

the day of purchase minus inflation on the day of sale (or measuring date, if not sold

before 90 days after the end of the Class Period).[24]

38. I divide the total investment loss realized on a share purchased during the Class

Period into two parts: (i) that portion of the investment loss that is due primarily to forces

and events that would have occurred regardless of any wrongful acts and omissions, and

(ii) that portion of the investment loss that relates to the inflation in the share price being

dissipated and, therefore, is solely attributable to the allegations of wrongful acts and

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[24] This damage measure is well recognized and has been consistently applied by experts in securities litigation. Additionally, there are strong economic arguments as to why the inflationary loss is always a "reasonably foreseeable" loss and always caused by the fraud, notwithstanding the operation of the market or other events upon the inflation in the stock price. This damages measure is sometimes referred to as the "out of pocket" rule, but that term, too, can be confusing and it is used in different ways. The "out of pocket" rule is set forth in variety of places, including: *Restatement of the Law, Torts, Second*, American Law Institute, 1977, Section 549; Page Keeton, et al., *Prosser and Keeton on The Law of Torts*, Fifth Edition, 1984, Section 110, pp. 767-777. Recent cases where I have testified and this method of calculating damages has been allowed include: *In re Broadcom Sec. Lit.* (Approval of plan of allocation over objections September 2005); *In re Raytheon Sec. Lit.* (June 2004 bench ruling and later approval of plan of allocation after settlement*); In re Clarent Sec. Lit*. (January 2005 ruling on motions in limine and trial testimony February 2005); and *In re JDS Uniphase Sec. Lit.* (ruling denying *Daubert* motion October 9, 2007, and other rulings denying various motions in limine filed in October and November 2007). For references by economic experts, see, for example, Michael Barclay & Frank C. Torchio, "A Comparison of Trading Models Used for Calculating Aggregate Damages in Securities Litigation," 64 *L. & Contemp. Probs.,* pp. 105-106 (2001) (stating: "In general, damages per share are calculated as the artificial inflation when the shares were purchased minus the artificial inflation when the shares were sold."); John Finnerty & George Pushner, "An Improved Two-Trader Model for Estimating Damages in Securities Fraud Class Actions," 8 *Stan. J. L. Bus. & Fin.,* p. 213 (2003) (discussing a damage model that measures damages based on inflation at time of purchase minus inflation at time of sale and allows for "in-and-out" or selling damages); Bradford Cornell & R. Gregory Morgan, "Using Finance Theory to Measure Damages in Fraud on the Market Cases," *37 UCLA L. Rev.*, pp. 883, 885-886 (1990) (". . . the measure of damages for an investor is simply . . . , for plaintiffs who sold their securities before the [final] corrective disclosure, the difference between the price inflation at the time of purchase and the price inflation at the time of sale."). The same measurement is applied to holders of stock through the end of a class period – inflation at the time of purchase minus inflation at the date of measurement. The PSLRA also contains a cap on damages based on a 90-day look back period at the end of a class period. 15 U.S.C. §78u-4(e).

omissions (as evidenced by the market's reaction to the disclosure, or materialization, of the previously concealed or understated risk of the relevant truth).

39. The investment loss (often referred to as the loss attributable to "transaction causation") is the difference between the price paid for a share upon purchase during the Class Period and the price at which the share was sold, if sold prior to the ending date for consideration of damages. (In this case, the ending date is the 90th day after the end of the Class Period.) If the share was not sold before the measurement date (the last trade date within the 90 days after the end of the Class Period), then the investment loss for Rule 10b-5 purposes is assumed to be the difference between the purchase price per share at the time of purchase minus the average closing price for the 90 days following the Class Period.

40. It is essential that the inflation-per-share analysis be performed in a manner consistent with the event-study analysis. Because stock prices are best modeled as a result of a diffusion process with periodic jumps,[25] events in most instances must be analyzed based on percentage movements and not absolute dollar changes, and adjustments must be made for compounding over time. Adjusting for compounding and compression[26] over time is vital to estimating the "but for" price, or true value, at the time of purchase.

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[25] Alexander, *Market Models*, 2001, pp. 66-67, 286-287, 320-322, 430-431, 440-442 (discusses the use of the natural log transformation to capture the diffusion process and events to control for jumps in stock prices at specific points in time); Franses, *Time Series Models for Business and Economic Forecasting*, 1998, pp. 128-130 (discusses the need to control for sudden changes in stock prices); Tsay, *Analysis of Financial Time Series*, 2002, p. 16 (shows returns based on daily log returns and percentage returns) and p. 244 (discusses a "jump diffusion model proposed by Kou (2000)" to model stock price movements).

[26] Compression is equivalent to saying the "bigger they are the harder they fall." The higher the stock price the more room it has to fall. The following example illustrates the principle of compression. Suppose two events of equal importance result in a loss of 75% in the share price. The temptation is to divide the percentage drop in half and say that each event accounts for 37.5% of the decline. If one of the events was foreseeable and actionable earlier in time and the other unrelated to the allegations in the Complaint, then

41. The so-called dollar-drop method, while used by some experts in securities litigation, is, therefore, inconsistent with the academic literature on modeling stock-price movements and is generally an inappropriate method for determining inflation per share at the time of purchase in a case such as this because it mistakenly assumes that the dollar decline associated with a corrective disclosure is exactly equal to the dollar decline that would have occurred had the "truth" been disclosed at the time of purchase. The failure of the dollar drop methodology to adjust for changes in market, industry and non-fraud-related factors renders the dollar drop method inappropriate for calculating damages.[27] Thus, only in certain situations (not present here) or by chance will the dollar drop associated with a corrective disclosure be equivalent to the dollar decline that would have occurred at the time of purchase. It can be shown by counter-example that the dollar drop method will yield results that are illogical. The dollar drop method will systematically underestimate the inflation per share damages when industry and company share prices have been generally declining throughout the class period and will systematically overestimate inflation per share damages when industry and company share prices have been rising throughout the class period.

42. Additionally, valuation theory bases common share prices on factors such as expected growth, earnings, and cash flow using various valuation multiples, which vary over time with changes in market sentiment, economic growth rates, interest rates, and

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this simplistic approach would say that the inflation in the share price prior to the event is 37.5%. However, two 37.5% events would combine to only cause a 61% decline in the share price (1-(1-.375)*(1-.375)). The individual percentage impact of each event would have to be 50% in order for the total decline after the two events to be 75%. Mathematically, 75% = 1-(1-.5)*(1-.5).

[27] Finnerty and Pushner, "An Improved Two-Trader Model for Estimating Damages in Securities Fraud Class Actions," also published in *Stanford Journal of Law, Business and Finance*, 2002, pp. 8-11 (discusses adjusting the corrective events over time for a "comparable-stock index that recognizes both industry and market-wide influences" and adjusting for "firm-specific factors that can be directly attributed to company announcements that are not related to the fraud" using the backwardization approach based on percentage returns, not absolute dollar changes).

perceptions of industry and market risk. Thus, a reduction in earnings per share on one day is not likely to have exactly the same dollar effect on a different day during the study period.

43. The concept of "equivalent disclosure" requires that percentage declines associated with later corrective disclosures be translated into percentage declines that would have occurred earlier in time had the alleged truth been disclosed in a timely manner.

44. I began the inflation analysis with the selection of relevant events. Relevant events are those that either would not have occurred but for the sustained allegations in the Complaint or would have occurred (or equivalent disclosure[28] events would have occurred) at or before the beginning of the Class Period but for the sustained allegations in the Complaint. I have already discussed in the prior section and in the summary section of this report that the selection of relevant events and the rationale for the relevant weights are used for determining inflation per share. The relevant events are identified in the Relevant Events columns in Exhibits C-1 and C-2 for the respective claims by the number 1 or, for partially relevant events, a number greater than 0.

45. The value line analysis is summarized in Exhibit C-1 in spreadsheet form in detail by day. The value line per share for the 10b-5 claims is determined using the residual-returns method (also known as the backwardization method). The residual-returns method is commonly used to determine inflation per share in securities litigation.[29] It

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[28] Cornell and Morgan, "Using Finance Theory to Measure Damages in Fraud on the Market Cases," *UCLA Law Review*, June 1990, pp. 894-897.

[29] Cornell and Morgan, "Using Finance Theory to Measure Damages in Fraud on the Market Cases," *UCLA Law Review*, June 1990, pp. 899-900; Koslow, "Estimating Aggregate Damages in Class Action Litigation Under Rule 10b-5 for Purposes of Settlement," *Fordham Law Review*, April 1991, pp. 819-825; Alexander, "The Value of Bad News in Securities Class Actions," *UCLA Law Review*, 1994, pp. 1426-1427; Finnerty and Pushner, "An Improved Two-Trader Model for Estimating Damages in Securities Fraud Class

assumes (consistent with my prior analyses and conclusions) that the relevant events (looking through the end of the 90 day period after the Class Period) should have occurred earlier in time and would have been reflected in the stock price of AOL earlier in time or at the beginning of the Class Period had the information as alleged by Plaintiffs been disclosed.

46. In Exhibit C-1, the column labeled "Relevance of Event" is the relevant portion (1.0 indicating 100% relevant and 0.0 indicating not relevant) of the relative movement (decline or increase) in the stock price on a given date that should have occurred at a prior date given the sustained allegations in the Complaint. The "Event Effect" column is the effect of each identified event as measured using the daily regression window (expressed in percentage format). The "True Value Percent" column in Exhibit C-1 provides a measure of the "true value line" as a percentage of AOL's closing stock price on each trade day. The "True Value Percent" column is calculated by working backward from April 23, 2002 (the last significant corrective relevant event prior to the first quarter 2002 earnings announcement for the claims asserted in Exhibit C-1) in Exhibit C-1 and working backwards from July 25, 2002 for the non-disclosure of accounting claims asserted in Exhibit C-2, assuming that the portion of each relevant event attributable to the Plaintiffs' claims (as shown in the "Relevance of Event" column) would have been previously foreseen at the beginning of, prior to or earlier during the Class Period.

47. Multiplying the "True Value Percent" column by AOL's Closing Price ("AOL Price" column) on each trade day results in the Value Line in Exhibit C-1. Inflation per

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Actions," also published in *Stanford Journal of Law, Business and Finance*, 2002, pp. 8-11 (discusses adjusting the corrective events over time for a "comparable-stock index that recognizes both industry and market-wide influences" and adjusting for "firm-specific factors that can be directly attributed to company announcements that are not related to the fraud" using the backwardization approach based on percentage returns, not absolute dollar changes).

share is merely the difference between AOL's actual share price and the Value Line on each trade day. A comparison of the Composite Index and the Value Line in Exhibit C-1 with AOL's share price is shown in Exhibit C-1. Exhibit C-1 demonstrates that the analysis is extremely conservative and reflects the fact that, as an analyst, Credit Suisse's disclosure of the relevant truth would have only explained a fraction of the total loss. Note that the Composite Index does tend to rise and fall over time with AOL's share price and implies that much of the decline in AOL's share price is not explained by market and industry forces.

48. By limiting the relevant events and limiting the analysis to the effects associated with an analyst report and not a statement by AOL's management, and not considering damages associated with certain possible leakage events, the inflation per share calculations implied in Exhibits C-1 and C-2 are conservative and substantially less than the damages realized by investors in AOL's shares during the period from January 12, 2001 through August 31, 2002.

Determination of Damages

49.   Damages are determined based on the estimated inflation in the share price and the reported share price at the time of each transaction during the relevant damage period. My analysis limits 10b-5 damages to the lesser of (i) the out-of-pocket difference between the price at which the share was purchased and the price at which it was sold during the Class Period or presumed sold as of the end of the Class Period and (ii) the difference between the inflation per share on the day the share was purchased less than inflation per share on the day the share was sold or presumed sold after the end of the Class Period. Damages for 10b-5 purposes are restricted such that only shares purchased

during the Class Period and held until at least July 18, 2001 are entitled to damages. I

also considered the average share price for the 90 days after last corrective event on July

19, 2002, as required under the PSLRA.

50.   Exhibit D provides an analysis of AOL's shares held by investors not excluded

from the Class and the purchases and sales of shares during the relevant damage period.

The various SEC filings and reports were used as a basis for this analysis. The analysis

begins on December 29, 2000 and continues through October 15, 2002 (beyond the end

of the 90 days following the end of the Class Period). The net trading volume is reduced

from the reported NYSE trading volume by 24%. Specialist trading and the effect it has

on overstating trades was generally around 14% of total volume.[30] Intraday trading by

other traders generally represented approximately 10% of the remainder of volume in the

time period of interest.[31]

51.   Insider trades were modest and were allocated to identified trade days when

reported and otherwise allocated over time based on trading volume. The short interest is

typically reported on approximately the 15th of each month. The changes in the short

position on each trade day between each reporting date were allocated based on trade

volume.   Option exercises and stock purchases led to modest changes in the shares

outstanding over time and were identified through the transfer agent certificate data.

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[30] This is the average net volume accounting for by specialists. In this case, that may be overstated given the large size of AOL's public float and heavy institutional ownership and the growth of ECNs in 2001 and 2002. The large float and heavy trading volume would likely require less-than-average dealer involvement in the trading of the security.
[31] During early 2000, intraday trading represented approximately 15% of total trading volume on NASDAQ and a smaller percentage (10% or less) on the NYSE according to information obtained from publications and from Instinet. However, intraday trading was substantially greater for companies with net daily trade volumes in excess of 1 million shares and intraday trading fell substantially in the latter half of 2000. After mid-2001, intraday trading has accounted for less than 10% of NYSE volume and approximately 10% of NASDAQ volume.

52.   Institutional trading was based on net quarterly changes in holdings reported by institutional investors. The daily changes in institutional holdings between quarters were allocated based on reported levels of trading volume each day relative to total trading volume within each quarter.

53.   Using the value line set forth in Exhibit C-1 and the trading and turnover of shares determined based on Exhibit D, I calculated damages for both identified institutional and unidentified non-institutional shares.   I prepared an analysis of aggregated damages applying NERA's multi-trader model for determining aggregate damages.[32] Damages for institutional purchases were calculated using the last-in-first-out method and are shown in Exhibit E-1 to total approximately $611 million.[33] As can be seen in Exhibit D (pp. 12-22), identified institutional shareholders consistently held more than half of the shares available to trade during the Class Period, but represented less than half of the trading and turnover of shares during the Class Period due the large passive and index fund holdings.

54.   In estimating non-institutional damages in Exhibit E-2, I applied standard assumptions regarding the distribution of short-term and long-term shareholders as set forth in NERA's working paper on this issue.[34]   The resulting estimate of aggregate damages for non-institutional shareholders was approximately $1,826 million.

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[32] Marcia Kramer Mayer, "Best Fit Estimation of Damages Volume in Shareholder Class Actions: the Multi-Sector, Multi-Trader Model of Investor Behavior," NERA Working Paper, October 2000. I have tested this model using Monte Carlo simulation techniques to verify that the institutional damages estimates are consistent and have a relative low rate of error and have used various sensitivity tests (varying the range of plausible parameters derived from various empirical estimates in other cases) to verify that the damages for the non-institutional population are limited.

[33] This is conservative for damages purposes.

[34] Marcia Kramer Mayer, "Best Fit Estimation of Damages Volume in Shareholder Class Actions: the Multi-Sector, Multi-Trader Model of Investor Behavior," NERA Working Paper, October 2000. See, also, Finnerty and Pushner, "An Improved Two-Trader Model for Estimating Damages in Securities Fraud Class Actions," subsequently published in the *Stanford Journal of Law, Business and Finance*, 2003. We

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Expert Report of Scott D. Hakala, Ph.D., CFA   *41*

55.   Overall, aggregate damages of $2,437 million were estimated for the Class Period based on the inflation estimates provided in Exhibit C-1. A total of approximately 1,811 million shares were traded at least once during the damage period in Exhibit C-1. The total average damage per traded share was approximately $1.35. While these calculations are estimates, they have generally been found to be reasonably reliable in a number of the larger cases where claims data has been received and are generally more reliable when institutional damages exceed 50% of the damage estimates.[35]

56.   For the non-disclosures related to accounting issues, I estimated aggregate damages for institutional and non-institutional shareholders in Exhibits F-1 and F-2, respectively. The inflation is determined to begin on July 12, 2001 and the assumed first corrective disclosure was determined to be on July 18, 2002 with the inflation in AOL's share price extinguished on July 25, 2002, as shown in Exhibit C-2. Thus, for damages purposes, only shares purchases on or after July 12, 2001 and on or before July 18, 2002 are potential damages and only shares held until July 18, 2002 are entitled to claims of damages. As shown in Exhibits F-1 and F-2, total estimated damages for the inflation related to accounting claims set forth in Exhibit C-2 are $1,422.5 billion. A total of approximately 1,791 million shares were damaged and the average damage per share related to the inflation estimates in Exhibit C-2 was $0.79.

57.   I expect to review additional materials and may consider additional information brought to my attention after issuing this report. I expect to consider and respond to such

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assumed 30% short-term and 70% long-term holdings as of June 28, 2002. Of newly purchased shares, 83% were assigned to short-term and 17% to long-term traders. Short-term traders were assumed to have 8.60 times the propensity to trade of long-term shareholders.

[35] For example, *In re Dynegy Securities Litigation; In re Computer Associates Sec. Litigation*; *In re Raytheon Sec. Lit*.; and *In re AOL Time Warner Sec. Lit.*